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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,682	02/26/2002	David L. Blankenbeckler	M-12013 US	1491

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EXAMINER

PSITOS, ARISTOTELIS M

ART UNIT	PAPER NUMBER
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2653

8

DATE MAILED: 02/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/085,682

Applicant(s)

BLANKENBECKLER ET AL.

Examiner

Aristotelis M Psitos

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 3/28/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 6) ☐ Other: _____

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DETAILED ACTION

Applicants' response of 11/03/03 has been considered with the following results.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

In particular, the examiner can find no support in the specification of the claim language as now recited with respect to the "only writing" onto the land areas – see 37 CFR 1.75 (d)(1). Appropriate correction is required.

Claims 5,9,18,24-30 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Dependent claim 5 contradicts the parent claim with respect to the principal surfaces in the parent claim being opposed. Dependent claim 9 adds no limitation to the product, but rather to a method of reading. Dependent claim 18 also adds no additional structural limitation. Dependent claims 24-30 add no further method of manufacturing steps.

Claim Rejections - 35 USC § 112

Claims 1-30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In particular, the claims recite a desired result, with respect to writing only onto the lands. Nevertheless, no disclosure as to how that is accomplished (lack of enablement) is found.

The disclosure does not provide the appropriate support to enable one of ordinary skill in the art to make and use such – i.e., there is no enabled disclosure focusing on ONLY writing onto the land areas of the record medium.

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Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-3,5,6,8,9,13,14,16, 18-28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oda et al considered with Sonnenschein et al and both further considered with Ueki.

Oda et al discloses a hybrid disc having both rom and ram areas – the rom are occurring first followed by appropriate ram (writable areas). There is no particular disclosure with respect to the “bumps” and or the different physical states as required by claim 1.

Sonnenschein et al discloses various recording techniques and materials – see for example column 2 starting at line 15 plus, wherein rom techniques encompass the formation of “bumps”.

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It would have been obvious to modify the base system of Oda et al with the acknowledged "bump" formation for the rom area, motivation is to use existing techniques well established for forming rom regions and hence use existing apparatus thereby saving time in redesigning new writing equipment.

Additionally, phase change materials are also taught in the Sonnenschein et al reference.

Furthermore, the amorphous – crystalline materials are further defined in the Ueki reference – see the discussion with respect to the change in physical states accordingly.

It would have been obvious to modify the system of Oda et al –Sonnenschein et al with the additional amorphous-crystalline states since Sonnenschein et al already acknowledges such phase change materials for recording information and using established materials for such is considered merely a substitution of the recording material predicated upon such decisions as cost, availability, reliability ease of manufacturing and hence obvious to those of ordinary skill in the art.

With respect to the reading ability, the examiner concludes that such is a desired result and hence inherently must follow from the structure positively recited and hence is met by the combination of references.

Alternatively, with respect to writing ONLY to the land areas in the record medium, although the above documents provide for recording to the entire ram area, the ability of limiting ones system to record only onto a portion thereof, either the land or the groove, is considered an obvious modification – i.e., such as writing on the lines of a piece of paper as opposed to writing on both the lines and spaces.

Such a technique is considered an obvious modification –such as to save writing time/power/ of the laser.

The limitations of claims 1, 16 and 23 are hence considered met.

With respect to claim 2, applicants' attention is drawn to figure 8, and the examiner concludes that because the rom area is less than the ram area, the limitation of claim 2 is inherently met.

With respect to claim 3, again see the above figure 8, the first principal portion is the rom area, and the second principal portion is the ram area.

With respect to claim 5, the rom and ram regions are on the same surface and hence this limitation is met.

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With respect to claim 6, the phase changing material in the Ueki reference changes the physical state thereof.

With respect to claim 8, in keeping with applicants' own definition, this limitation is met.

With respect to claim 9, obviously the above Oda et al/Sonnenschein et al/Ueki combination, provision for reading of the information on the disc is present, hence must read accordingly.

With respect to claim 13, the phase change material is found for both the rom and the ram regions.

With respect to claim 14 this occurs as a result of the phase change material.

With respect to claim 18, the rom is considered to contain the mastered information.

With respect to claims 19-22,24-28,and 30 see the above discussion of the materials in Ueki, and the writing to the land area as discussed above.

5. Claims 1,16, 23, 2,3,5,6,9,14,15, 17-22,24-30 are rejected under 35 U.S.C. 103(a) as obvious over Feyrer et al further considered with Oda et al and Takemura et al, or alternatively with Muller and Takemura et al.

Feyrer et al discloses various types of materials for recording used in this environment – see the discussion with respect to amorphous – crystalline as well as his expandable materials and “bumps” as being established during a writing process. There is no indication that the Feyrer et al disc is segmented into surfaces (either along the same plane), nor if information is written onto both the top and bottom surface.

Takemura et al disclose an optical record having disc shaped substrates, wherein both servo information and recording areas are provided in “land” areas; see the abstract, fig. 2 and the associated description thereof – also col 5 lines 35 plus. The servo tracks are interpreted as the first portion, and that track id information is recorded therein (preformatted) see col. 3 lines 30-35 for instance and a rewritable area – see col 3lines 15-29. The recording material is at least over the land areas, and is as depicted in figure 1b of Moribe et al over the entire disc substrate.

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Alternatively, if applicants can convince the examiner that such is not what the first and second principal surface(s) of applicants' invention, then further modification with Oda et al – rom and ram areas being provided for see fig. 6 for instance – teaches separate first and second principal surfaces.

Furthermore, alternatively Muller teaches having information on two opposing surfaces (bottom and top surface) and hence modification of the base reference along with this teaching from Muller in place of the teaching from Oda et al is also made if applicants' can convince the examiner that this is what is meant by the opposing principal surfaces.

It would have been obvious to modify the base system of Feyrer et al with Takemura et al & Oda et al or Takemura et al and Muller and have separate first and second principal surfaces with the appropriate recording material responsive to exposure of energy and change physical states (bumps). The examiner considers that the recording material is deposited on the substrate. Motivation is to provide for preformatted header information along with recordable areas as taught by Takemura et al or alternatively with a hybrid rom/ram disc structure for having rewritable areas and areas containing vendor/manufacturing data.

With respect to claim 2, since the track id information is of a smaller data nature, smaller amount of information, than that able to be recording in the writable area, the limitation of claim 2 is met.

The limitation of claims 3 and 17 are considered present when the servo is in the groove area, and the land is in the land area.

With respect to claim 5, Takemura et al also provides for the recording of id information and the writable data in the same plane, second principal surface.

The limitation of claim 6 is inherently present.

With respect to claim 9, it is noted that this is written as a desired function – “is read” and hence no further positive limitation of the parent claim is presented. Nevertheless, in both of the base references, data is read from the lands, and prerecorded information is read from the “bumps” in the above combination of references.

With respect to claims 14 and 15, these limitations are considered inherently present.

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With respect to claim 18, the examiner interprets the pre-recorded data as the "mastered information".

The limitations of claim 19-22 and 24-28 and 30 are considered inherently present, i.e., crystalline, amorphous states, changing phases as well as the thickness variation.

With respect to claim 29, note the laser wavelength disclosed in Takemura et al for instance.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 1 above, and further in view of Muller and Nakashima.

The data densities described in this claim are well known for discs in this environment. Muller at col. 3 lines 50-68 and Nagashima at col. 1 lines 30-54.

It would have been obvious to modify the base system of the references relied upon as stated above with the particular recording densities, motivation is to permit the formed disc to be compatible with standard record data densities in this environment and hence increase the marketability of such.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 1 above, and further in view of either Pan et al.

The particular material recited in claim 7 is known as taught by Pan et al.

Selection of materials used in this environment for the phase changing recording layer is considered merely a selection of alternative equivalents known in this environment, and selection between such is considered obvious for such reason(s) as availability, reliability, cost, etc.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 1 as stated in paragraph 5 above, and further in view of themselves, or the acknowledged prior art with respect to such phraseology.

As far as the examiner can ascertain, the phrase "first-surface disc" is met either by applicants' own definition of such discs being well known, and or the references. In Halter et al, since servo information is in the first surface, such is present. In Moribe et al, again pre-recorded information, servo data meets the above definition as does Takemura et al.

9. Claims 10 & 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 1 above, and further in view of Igarashi

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The limitations with respect to the size of the disc is considered obvious in view of Igarashi which discloses discs less than 80 mm as standard. Selection of appropriate sized disc is merely an optimization of size and obvious to one of ordinary skill in the art.

10. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 1 above, and further in view of Nakamura et al.

With respect to the limitations of claim 12, because the Nakamura et al document discloses various thickness for the overall disc record, the specific limitation is considered merely an optimization of such, and hence obvious over the combination of references in order to optimize the record medium.

11. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 1 as stated in paragraph 5 above, and further in view of Nakamura et al.

In interpreting the above claims, the examiner concluded that the recording material is deposited over the entire record substrate accordingly, as needed. Alternatively, Nakamura et al teaches the ability of placing a laminated recording material over the entire disc substrate.

It would have been obvious to modify the base system of the art above/combination of references, with the additional teaching of placing the recording material over the entire record medium, such being routine practice in this environment.

12. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 1 as stated in paragraph 4 above, and further in view of Braitberg et al (463/559, WO 00/79526).

Braitberg et al teach the ability of having a plurality of recording/information layers, which the examiner interprets as meeting the different surfaces limitation of this claim.

It would have been obvious to modify the base system as stated above in paragraph 4 with the above teaching from Braitberg et al, motivation is to permit separate information areas and hence increase the recording density of the record.

13. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 28 as stated in paragraph 4 above, and further in view of Takemura et al.

The ability of using this particular wavelength in this environment is well known as taught by the Takemura et al document.

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It would have been obvious to modify the references as relied upon with respect to claim 28 above and use the appropriate wavelength for the laser in order to write and or read the information accordingly. Selection of this particular wavelength is considered merely a selection from among various wavelengths and predicated upon what information is desired by the user to record and or reproduce.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Hard copies of the application files are now separated from this examining corps; hence the examiner can answer no questions that require a review of the file without sufficient lead-time.

Any inquiries concerning missing papers/references, etc. must be directed to Group 2600 Customer Services at (703) 306-0377.

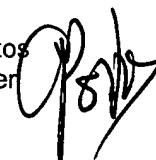
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aristotelis M Psitos whose telephone number is (703) 308-1598. The examiner can normally be reached on M-Thursday 8 - 4.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R. Korzuch can be reached on (703) 305-6137. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

Aristotelis M Psitos
Primary Examiner
Art Unit 2653



AMP